```
AAATCCTCCA CTCATACACT CCACTTCTCT CTCTCTCTCT CTCTCTCTGA AACAATTTGA    60

GTAGCAAACT TAAAAGAAA ATG GAG GAA ATG GGA AGC ATT TTA GAG TTT CTT    112
                     Met Glu Glu Met Gly Ser Ile Leu Glu Phe Leu
                     1               5                  10

GAT AAC AAA GCC ATT TTG GTC ACT GGT GCT ACT GGC TCC TTA GCA AAA    160
Asp Asn Lys Ala Ile Leu Val Thr Gly Ala Thr Gly Ser Leu Ala Lys
            15                  20                  25

ATT TTT GTG GAG AAG GTA CTG AGG AGT CAA CCG AAT GTG AAG AAA CTC    208
Ile Phe Val Glu Lys Val Leu Arg Ser Gln Pro Asn Val Lys Lys Leu
        30                  35                  40

TAT CTT CTT TTG AGA GCA ACC GAT GAC GAG ACA GCT GCT CTA CGC TTG    256
Tyr Leu Leu Leu Arg Ala Thr Asp Asp Glu Thr Ala Ala Leu Arg Leu
    45                  50                  55

CAA AAT GAG GTT TTT GGA AAA GAG TTG TTC AAA GTT CTG AAA CAA AAT    304
Gln Asn Glu Val Phe Gly Lys Glu Leu Phe Lys Val Leu Lys Gln Asn
60                  65                  70                  75
```

FIG. 1A

```
TTA GGT GCA AAT TTC TAT TCC TTT GTA TCA GAA AAA GTG ACT GTA GTA    352
Leu Gly Ala Asn Phe Tyr Ser Phe Val Ser Glu Lys Val Thr Val Val
                80                  85                  90

CCC GGT GAT ATT ACT GGT GAA GAC TTG TGT CTC AAA GAC GTC AAT TTG    400
Pro Gly Asp Ile Thr Gly Glu Asp Leu Cys Leu Lys Asp Val Asn Leu
            95                  100                 105

AAG GAA GAA ATG TGG AGG GAA ATC GAT GTT GTT GTC AAT CTA GCT GCT    448
Lys Glu Glu Met Trp Arg Glu Ile Asp Val Val Val Asn Leu Ala Ala
        110                 115                 120

ACA ATC AAC TTC ATT GAA AGG TAC GAC GTG TCT CTG CTT ATC AAC ACA    496
Thr Ile Asn Phe Ile Glu Arg Tyr Asp Val Ser Leu Leu Ile Asn Thr
    125                 130                 135

TAT GGA GCC AAG TAT GTT TTG GAC TTC GCG AAG AAG TGC AAC AAA TTA    544
Tyr Gly Ala Lys Tyr Val Leu Asp Phe Ala Lys Lys Cys Asn Lys Leu
140                 145                 150                 155

AAG ATA TTT GTT CAT GTA TCT ACT GCT TAT GTA TCT GGA GAG AAA AAT    592
Lys Ile Phe Val His Val Ser Thr Ala Tyr Val Ser Gly Glu Lys Asn
                160                 165                 170
```

FIG. 1B

```
GGG TTA ATA CTG GAG AAG CCT TAT TAT ATG GGC GAG TCA CTT AAT GGA    640
Gly Leu Ile Leu Glu Lys Pro Tyr Tyr Met Gly Glu Ser Leu Asn Gly
            175                 180                 185

AGA TTA GGT CTG GAC ATT AAT GTA GAG AAG AAA CTT GTG GAG GCA AAA    688
Arg Leu Gly Leu Asp Ile Asn Val Glu Lys Lys Leu Val Glu Ala Lys
        190                 195                 200

ATC AAT GAA CTT CAA GCA GCG GGG GCA ACG GAA AAG TCC ATT AAA TCG    736
Ile Asn Glu Leu Gln Ala Ala Gly Ala Thr Glu Lys Ser Ile Lys Ser
    205                 210                 215

ACA ATG AAG GAC ATG GGC ATC GAG AGG GCA AGA CAC TGG GGA TGG CCA    784
Thr Met Lys Asp Met Gly Ile Glu Arg Ala Arg His Trp Gly Trp Pro
220                 225                 230                 235

AAT GTG TAT GTA TTC ACC AAG GCA TTA GGG GAG ATG CTT TTG ATG CAA    832
Asn Val Tyr Val Phe Thr Lys Ala Leu Gly Glu Met Leu Leu Met Gln
                240                 245                 250

TAC AAA GGG GAC ATT CCG CTT ACT ATT ATT CGT CCC ACC ATC ATC ACC    880
Tyr Lys Gly Asp Ile Pro Leu Thr Ile Ile Arg Pro Thr Ile Ile Thr
            255                 260                 265
```

FIG. 1C

```
AGC ACT TTT AAA GAG CCC TTT CCT GGT TGG GTT GAA GGT GTC AGG ACC    928
Ser Thr Phe Lys Glu Pro Phe Pro Gly Trp Val Glu Gly Val Arg Thr
        270                 275                 280

ATC GAT AAT GTA CCT GTA TAT TAT GGT AAA GGG AGA TTG AGG TGT ATG    976
Ile Asp Asn Val Pro Val Tyr Tyr Gly Lys Gly Arg Leu Arg Cys Met
    285                 290                 295

CTT TGC GGA CCC AGC ACA ATA ATT GAC CTG ATA CCG GCA GAT ATG GTC   1024
Leu Cys Gly Pro Ser Thr Ile Ile Asp Leu Ile Pro Ala Asp Met Val
300                 305                 310                 315

GTG AAT GCA ACG ATA GTA GCC ATG GTG GCG CAC GCA AAC CAA AGA TAC   1072
Val Asn Ala Thr Ile Val Ala Met Val Ala His Ala Asn Gln Arg Tyr
                320                 325                 330

GTA GAG CCG GTG ACA TAC CAT GTG GGA TCT TCA GCG GCG AAT CCA ATG   1120
Val Glu Pro Val Thr Tyr His Val Gly Ser Ser Ala Ala Asn Pro Met
            335                 340                 345

AAA CTG AGT GCA TTA CCA GAG ATG GCA CAC CGT TAC TTC ACC AAG AAT   1168
Lys Leu Ser Ala Leu Pro Glu Met Ala His Arg Tyr Phe Thr Lys Asn
        350                 355                 360
```

FIG. 1D

```
CCA TGG ATC AAC CCG GAT CGC AAC CCA GTA CAT GTG GGT CGG GCT ATG   1216
Pro Trp Ile Asn Pro Asp Arg Asn Pro Val His Val Gly Arg Ala Met
    365                 370                 375

GTC TTC TCC TCC TTC TCC ACC TTC CAC CTT TAT CTC ACC CTT AAT TTC   1264
Val Phe Ser Ser Phe Ser Thr Phe His Leu Tyr Leu Thr Leu Asn Phe
380                 385                 390                 395

CTC CTT CCT TTG AAG GTA CTG GAG ATA GCA AAT ACA ATA TTC TGC CAA   1312
Leu Leu Pro Leu Lys Val Leu Glu Ile Ala Asn Thr Ile Phe Cys Gln
                400                 405                 410

TGG TTC AAG GGT AAG TAC ATG GAT CTT AAA AGG AAG ACG AGG TTG TTG   1360
Trp Phe Lys Gly Lys Tyr Met Asp Leu Lys Arg Lys Thr Arg Leu Leu
            415                 420                 425

TTG CGT TTA GTA GAC ATT TAT AAA CCC TAC CTC TTC TTC CAA GGC ATC   1408
Leu Arg Leu Val Asp Ile Tyr Lys Pro Tyr Leu Phe Phe Gln Gly Ile
        430                 435                 440

TTT GAT GAC ATG AAC ACT GAG AAG TTG CGG ATT GCT GCA AAA GAA AGC   1456
Phe Asp Asp Met Asn Thr Glu Lys Leu Arg Ile Ala Ala Lys Glu Ser
    445                 450                 455
```

FIG. 1E

```
ATA GTT GAA GCT GAT ATG TTT TAC TTT GAT CCC AGG GCA ATT AAC TGG   1504
Ile Val Glu Ala Asp Met Phe Tyr Phe Asp Pro Arg Ala Ile Asn Trp
460                 465                 470                 475

GAA GAT TAC TTC TTG AAA ACT CAT TTC CCA GGN GTC GTA GAG CAC GTT   1552
Glu Asp Tyr Phe Leu Lys Thr His Phe Pro Gly Val Val Glu His Val
                480                 485                 490

CTT AAC TAAAAGTTAC GGTACGAAAA TGAGAAGATT GGAATGCATG CACCGAAAGN    1608
Leu Asn

NCAACATAAA AGACGTGGTT AAAGTCATGG TCAAAAAAGA AATAAAATGC AGTTAGGTTT 1668

GTGTTGCAGT TTTGATTCCT TGTATTGTTA CTTGTACTTT TGATCTTTTT CTTTTTTAAT 1728

GAAATTTCTC TCTTTGTTTT GTGAAAAAAA AAAAAAAAAA GAGCTCCTGC AGAAGCTT   1786
```

FIG. 1F

```
GGAACTCCAT CCCTTCCTCC CTCACTCCTC TCTCTACA ATG AAG GCC AAA ACA ATC   56
                                           Met Lys Ala Lys Thr Ile
                                            1               5

ACA AAC CCG GAG ATC CAA GTC TCC ACG ACC ATG ACC ACC ACG ACC ACG    104
Thr Asn Pro Glu Ile Gln Val Ser Thr Thr Met Thr Thr Thr Thr Thr
            10                  15                  20

ACT ATG ACC GCC ACT CTC CCC AAC TTC AAG TCC TCC ATC AAC TTA CAC    152
Thr Met Thr Ala Thr Leu Pro Asn Phe Lys Ser Ser Ile Asn Leu His
        25                  30                  35

CAC GTC AAG CTC GGC TAC CAC TAC TTA ATC TCC AAT GCC CTC TTC CTC    200
His Val Lys Leu Gly Tyr His Tyr Leu Ile Ser Asn Ala Leu Phe Leu
    40                  45                  50

GTA TTC ATC CCC CTT TTG GGC CTC GCT TCG GCC CAT CTC TCC TCC TTC    248
Val Phe Ile Pro Leu Leu Gly Leu Ala Ser Ala His Leu Ser Ser Phe
55                  60                  65                  70

TCG GCC CAT GAC TTG TCC CTG CTC TTC GAC CTC CTT CGC CGC AAC CTC    296
Ser Ala His Asp Leu Ser Leu Leu Phe Asp Leu Leu Arg Arg Asn Leu
                75                  80                  85
```

FIG. 2A

```
CTC CCT GTT GTC GTT TGT TCT TTC CTC TTC GTT TTA TTA GCA ACC CTA     344
Leu Pro Val Val Val Cys Ser Phe Leu Phe Val Leu Leu Ala Thr Leu
            90                  95                  100

CAT TTC TTG ACC CGG CCC AGG AAT GTC TAC TTG GTG GAC TTT GGA TGC     392
His Phe Leu Thr Arg Pro Arg Asn Val Tyr Leu Val Asp Phe Gly Cys
        105                 110                 115

TAT AAG CCT CAA CCG AAC CTG ATG ACA TCC CAC GAG ATG TTC ATG GAC     440
Tyr Lys Pro Gln Pro Asn Leu Met Thr Ser His Glu Met Phe Met Asp
    120                 125                 130

CGG ACC TCC CGG GCC GGG TCG TTT TCT AAG GAG AAT ATT GAG TTT CAG     488
Arg Thr Ser Arg Ala Gly Ser Phe Ser Lys Glu Asn Ile Glu Phe Gln
135                 140                 145                 150

AGG AAG ATC TTG GAG AGG GCC GGT ATG GGT CGG GAA ACC TAT GTC CCC     536
Arg Lys Ile Leu Glu Arg Ala Gly Met Gly Arg Glu Thr Tyr Val Pro
                155                 160                 165

GAA TCC GTC ACT AAG GTG CCC GCC GAG CCG AGC ATA GCA GCA GCC AGG     584
Glu Ser Val Thr Lys Val Pro Ala Glu Pro Ser Ile Ala Ala Ala Arg
            170                 175                 180
```

FIG. 2B

```
GCC GAG GCG GAG GAG GTG ATG TAC GGG GCG ATC GAC GAG GTG TTG GAG     632
Ala Glu Ala Glu Glu Val Met Tyr Gly Ala Ile Asp Glu Val Leu Glu
        185                 190                 195

AAG ACG GGG GTG AAG CCG AAG CAG ATA GGA ATA CTG GTG GTG ANC TGC     680
Lys Thr Gly Val Lys Pro Lys Gln Ile Gly Ile Leu Val Val Xxx Cys
    200                 205                 210

AGC TTG TTT AAC CCA ACG CCG TCG CTG TCA TCC ATG ATA GTT AAC CAT     728
Ser Leu Phe Asn Pro Thr Pro Ser Leu Ser Ser Met Ile Val Asn His
215                 220                 225                 230

TAC AAG CTN AGG GGT AAT ATA CTT AGC TAT AAT CTT GGT GGC ATG GGT     776
Tyr Lys Leu Arg Gly Asn Ile Leu Ser Tyr Asn Leu Gly Gly Met Gly
                235                 240                 245

TGC AGT GCT GGG CTC ATT TCC ATT GAT CTT GCC AAG GAC CTC CTA CAG     824
Cys Ser Ala Gly Leu Ile Ser Ile Asp Leu Ala Lys Asp Leu Leu Gln
            250                 255                 260

GTT TAC CGT AAA AAC ACA TAT GTG TTA GTA GTG AGC ACG GAA AAC ATG     872
Val Tyr Arg Lys Asn Thr Tyr Val Leu Val Val Ser Thr Glu Asn Met
        265                 270                 275
```

FIG. 2C

```
ACC CTT AAT TGG TAC TGG GGC AAT GAC CGC TCC ATG CTT ATC ACC AAC     920
Thr Leu Asn Trp Tyr Trp Gly Asn Asp Arg Ser Met Leu Ile Thr Asn
    280                 285                 290

TGC CTA TTT CGC ATG GGT GGC GCT GCC ATC ATC CTC TCA AAC CGC TGG     968
Cys Leu Phe Arg Met Gly Gly Ala Ala Ile Ile Leu Ser Asn Arg Trp
295                 300                 305                 310

CGT GAT CGT CGC CGA TCC AAG TAC CAA CTC CTT CAT ACA GTA CGC ACC    1016
Arg Asp Arg Arg Arg Ser Lys Tyr Gln Leu Leu His Thr Val Arg Thr
                315                 320                 325

CAC AAG GGC GCT GAC GAC AAG TCC TAT AGA TGC GTC TTA CAA CAA GAA    1064
His Lys Gly Ala Asp Asp Lys Ser Tyr Arg Cys Val Leu Gln Gln Glu
            330                 335                 340

GAT GAA AAT AAC AAG GTA GGT GTT GCC TTA TCC AAG GAT CTG ATG GCA    1112
Asp Glu Asn Asn Lys Val Gly Val Ala Leu Ser Lys Asp Leu Met Ala
        345                 350                 355

GTT GCC GGT GAA GCC CTA AAG GCC AAC ATC ACG ACC CTT GGT CCC CTC    1160
Val Ala Gly Glu Ala Leu Lys Ala Asn Ile Thr Thr Leu Gly Pro Leu
    360                 365                 370

GTG CTC CCC ATG TCA GAA CAA CTC CTC TTC TTT GCC ACC TTA GTG GCA    1208
Val Leu Pro Met Ser Glu Gln Leu Leu Phe Phe Ala Thr Leu Val Ala
375                 380                 385                 390
```

FIG. 2D

```
CGT AAG GTC TTC AAG ATG ACG AAC GTG AAG CCA TAC ATC CCA GAT TTC  1256
Arg Lys Val Phe Lys Met Thr Asn Val Lys Pro Tyr Ile Pro Asp Phe
                395                 400                 405

AAG TTG GCA GCG AAC GAC TTC TGC ATC CAT GCA GGA GGC AAA GCA GTG  1304
Lys Leu Ala Ala Asn Asp Phe Cys Ile His Ala Gly Gly Lys Ala Val
            410                 415                 420

TTG GAT GAG CTC GAG AAG AAC TTG GAG TTG ACG CCA TGG CAC CTT GAA  1352
Leu Asp Glu Leu Glu Lys Asn Leu Glu Leu Thr Pro Trp His Leu Glu
        425                 430                 435

CCC TCG AGG ATG ACA CTG TAT AGG TTT GGG AAC ACA TCG AGT AGC TCA  1400
Pro Ser Arg Met Thr Leu Tyr Arg Phe Gly Asn Thr Ser Ser Ser Ser
    440                 445                 450

TTA TGG TAC GAG TTG GCA TAC GCT GAA GCA AAA GGG AGG ATC CGT AAG  1448
Leu Trp Tyr Glu Leu Ala Tyr Ala Glu Ala Lys Gly Arg Ile Arg Lys
455                 460                 465                 470

GGT GAT CGA ACT TGG ATG ATT GGA TTT GGT TCA GGT TTC AAG TGT AAC  1496
Gly Asp Arg Thr Trp Met Ile Gly Phe Gly Ser Gly Phe Lys Cys Asn
                475                 480                 485
```

FIG. 2E

```
AGT GTT GTG TGG AGG GCT TTG AGG AGT GTC AAT CCG GCT AGA GAG AAG   1544
Ser Val Val Trp Arg Ala Leu Arg Ser Val Asn Pro Ala Arg Glu Lys
            490                 495                 500

AAT CCT TGG ATG GAT GAA ATT GAG AAG TTC CCT GTC CAT GTG CCT AAA   1592
Asn Pro Trp Met Asp Glu Ile Glu Lys Phe Pro Val His Val Pro Lys
        505                 510                 515

ATC GCA CCT ATC GCT TCG TAGAACTGCT AGGATGTGAT TAGTAATGAA          1640
Ile Ala Pro Ile Ala Ser
    520

AAATGTGTAT TATGTTAGTG ATGTAGAAAA AGAAACTTTA GTTGATGGGT GAGAACATGT 1700

CTCATTGAGA ATAACGTGTG CATCGTTGTG TTG                              1733
```

FIG. 2F

```
GTCGACACA ATG AAG GCC AAA ACA ATC ACA AAC CCG GAG ATC CAA GTC TCC    51
          Met Lys Ala Lys Thr Ile Thr Asn Pro Glu Ile Gln Val Ser
           1               5                  10

ACG ACC ATG ACC ACC ACG ACC ACG ACC GCC ACT CTC CCC AAC TTC AAG     99
Thr Thr Met Thr Thr Thr Thr Thr Ala Thr Leu Pro Asn Phe Lys
15                  20                  25                  30

TCC TCC ATC AAC TTA CAC CAC GTC AAG CTC GGC TAC CAC TAC TTA ATC    147
Ser Ser Ile Asn Leu His His Val Lys Leu Gly Tyr His Tyr Leu Ile
                35                  40                  45

TCC AAT GCC CTC TTC CTC GTA TTC ATC CCC CTT TTG GGC CTC GCT TCG    195
Ser Asn Ala Leu Phe Leu Val Phe Ile Pro Leu Leu Gly Leu Ala Ser
            50                  55                  60

GCC CAC CTC TCC TCC TTC TCG GCC CAT GAC TTG TCC CTG CTC TTC GAC    243
Ala His Leu Ser Ser Phe Ser Ala His Asp Leu Ser Leu Leu Phe Asp
        65                  70                  75

CTC CTT CGC CGC AAC CTC CTC CCC GTT GTC GTT TGT TCT TTC CTC TTC    291
Leu Leu Arg Arg Asn Leu Leu Pro Val Val Val Cys Ser Phe Leu Phe
    80                  85                  90
```

FIG. 3A

```
GTT TTA TTA GCA ACC CTA CAT TTC TTG ACC CGG CCT AGG AAT GTC TAC     339
Val Leu Leu Ala Thr Leu His Phe Leu Thr Arg Pro Arg Asn Val Tyr
95                  100                 105                 110

TTG GTG GAC TTT GCC TGC TAT AAG CCT CAC CCG AAC CTG ATA ACA TCC     387
Leu Val Asp Phe Ala Cys Tyr Lys Pro His Pro Asn Leu Ile Thr Ser
                115                 120                 125

CAC GAG ATG TTC ATG GAC CGG ACC TCC CGG GCC GGG TCG TTT TCT AAG     435
His Glu Met Phe Met Asp Arg Thr Ser Arg Ala Gly Ser Phe Ser Lys
            130                 135                 140

GAG AAT ATT GAG TTT CAG AGG AAG ATC TTG GAG AGG GCC GGT ATG GGC     483
Glu Asn Ile Glu Phe Gln Arg Lys Ile Leu Glu Arg Ala Gly Met Gly
        145                 150                 155

CGG GAA ACC TAC GTC CCC GAA TCC GTC ACT AAG GTG CCG CCC GAG CCG     531
Arg Glu Thr Tyr Val Pro Glu Ser Val Thr Lys Val Pro Pro Glu Pro
    160                 165                 170

AGC ATA GCA GCA GCC AGG GCC GAG GCG GAG GAG GTG ATG TAC GGG GCG     579
Ser Ile Ala Ala Ala Arg Ala Glu Ala Glu Glu Val Met Tyr Gly Ala
175                 180                 185                 190
```

FIG. 3B

```
ATC GAC GAG GTG TTG GAG AAG ACG GGG GTG AAG CCG AAG CAG ATA GGA     627
Ile Asp Glu Val Leu Glu Lys Thr Gly Val Lys Pro Lys Gln Ile Gly
                195                 200                 205

ATA CTG GTG GTG AAC TGC AGC TTG TTT AAC CCA ACG CCG TCG CTG TCA     675
Ile Leu Val Val Asn Cys Ser Leu Phe Asn Pro Thr Pro Ser Leu Ser
            210                 215                 220

TCC ATG ATA GTT AAC CAT TAC AAG CTT AGG GGT AAT ATA CTT AGC TAT     723
Ser Met Ile Val Asn His Tyr Lys Leu Arg Gly Asn Ile Leu Ser Tyr
        225                 230                 235

AAT CTT GGT GGC ATG GGT TGC AGT GCT GGG CTC ATT TCC ATT GAT CTT     771
Asn Leu Gly Gly Met Gly Cys Ser Ala Gly Leu Ile Ser Ile Asp Leu
    240                 245                 250

GCC AAG GAC CTC CTA CAG GTT TAC CGT AAC ACA TAT GTG TTA GTA GTG     819
Ala Lys Asp Leu Leu Gln Val Tyr Arg Asn Thr Tyr Val Leu Val Val
255                 260                 265                 270

AGC ACA GAA AAC ATG ACC CTT AAT TGG TAC TGG GGC AAT GAC CGC TCC     867
Ser Thr Glu Asn Met Thr Leu Asn Trp Tyr Trp Gly Asn Asp Arg Ser
                275                 280                 285
```

FIG. 3C

```
ATG CTT ATC ACC AAC TGC CTA TTT CGC ATG GGT GGC GCT GCC ATC ATC     915
Met Leu Ile Thr Asn Cys Leu Phe Arg Met Gly Gly Ala Ala Ile Ile
            290                 295                 300

CTC TCA AAC CGC TGG CGT GAT CGT CGC CGA TCC AAG TAC CAA CTC CTT     963
Leu Ser Asn Arg Trp Arg Asp Arg Arg Arg Ser Lys Tyr Gln Leu Leu
        305                 310                 315

CAC ACA GTA CGC ACC CAC AAG GGC GCT GAC GAC AAG TCC TAT AGA TGC    1011
His Thr Val Arg Thr His Lys Gly Ala Asp Asp Lys Ser Tyr Arg Cys
    320                 325                 330

GTC TTA CAA CAA GAA GAT GAA AAT AAC AAG GTA GGT GTT GCC TTA TCC    1059
Val Leu Gln Gln Glu Asp Glu Asn Asn Lys Val Gly Val Ala Leu Ser
335                 340                 345                 350

AAG GAT CTG ATG GCA GTT GCC GGT GAA GCC CTA AAG GCC AAC ATC ACG    1107
Lys Asp Leu Met Ala Val Ala Gly Glu Ala Leu Lys Ala Asn Ile Thr
                355                 360                 365

ACC CTT GGT CCC CTC GTG CTC CCC ATG TCA GAA CAA CTC CTC TTC TTT    1155
Thr Leu Gly Pro Leu Val Leu Pro Met Ser Glu Gln Leu Leu Phe Phe
            370                 375                 380
```

FIG. 3D

```
GCC ACC TTA GTG GCA CGT AAG GTC TTC AAG ATG ACG AAC GTG AAG CCA   1203
Ala Thr Leu Val Ala Arg Lys Val Phe Lys Met Thr Asn Val Lys Pro
        385                 390                 395

TAC ATC CCA GAT TTC AAG TTG GCA GCG AAG CAC TTC TGC ATC CAT GCA   1251
Tyr Ile Pro Asp Phe Lys Leu Ala Ala Lys His Phe Cys Ile His Ala
    400                 405                 410

GGA GGC AAA GCA GTG TTG GAT GAG CTC GAG ACG AAC TTG GAG TTG ACG   1299
Gly Gly Lys Ala Val Leu Asp Glu Leu Glu Thr Asn Leu Glu Leu Thr
415                 420                 425                 430

CCA TGG CAC CTT GAA CCC TCG AGG ATG ACA CTG TAT AGG TTT GGG AAC   1347
Pro Trp His Leu Glu Pro Ser Arg Met Thr Leu Tyr Arg Phe Gly Asn
                435                 440                 445

ACA TCG AGT AGC TCA TTA TGG TAC GAG TTG GCA TAC GCT GAA GCA AAA   1395
Thr Ser Ser Ser Ser Leu Trp Tyr Glu Leu Ala Tyr Ala Glu Ala Lys
            450                 455                 460

GGG AGG ATC CGT AAG GGT GAT CGA ACT TGG ATG ATT GGA TTT GGT TCA   1443
Gly Arg Ile Arg Lys Gly Asp Arg Thr Trp Met Ile Gly Phe Gly Ser
        465                 470                 475
```

FIG. 3E

```
GGT TTC AAG TGT AAC AGT GTT GTG TGG AGG GCT TTG AGG AGT GTC AAT   1491
Gly Phe Lys Cys Asn Ser Val Val Trp Arg Ala Leu Arg Ser Val Asn
    480                 485                 490

CCG GCT AGA GAG AAG AAT CCT TGG ATG GAT GAA ATT GAG AAT TTC CCT   1539
Pro Ala Arg Glu Lys Asn Pro Trp Met Asp Glu Ile Glu Asn Phe Pro
495                 500                 505                 510

GTC CAT GTG CCT AAA ATC GCA CCT ATC GCT TCG TAGAACTGCT AGGATGTGAT 1592
Val His Val Pro Lys Ile Ala Pro Ile Ala Ser
                515                 520

TAGTAATGAA AAATGTGTAT TATGTTAGTG ATGTAGAAAA AGAAACTTTA GTTGATGGGT 1652

GAGAACATGT CTCATTGAGA ATAACGTGTG CATCGTTGTG TTGAATTTGA ATTTGAGTAT 1712

TGGTGAAATT CTGTTAGAAT TGACGCATGA GTCATATATA TACAAATTTA AGTAAGATTT 1772

TACGCTTTCT T                                                      1783
```

FIG. 3F

GGCGCGCCGG TACCTCTAGA CCTGGCGATT CAACGTGGTC GGATCATGAC GCTTCCAGAA 60

AACATCGAGC AAGCTCTCAA AGCTGACCTC TTTCGGATCG TACTGAACCC GAACAATCTC 120

GTTATGTCCC GTCGTCTCCG AACAGACATC CTCGTAGCTC GGATTATCGA CGAATCCATG 180

GCTATACCCA ACCTCCGTCT TCGTCACGCC TGGAACCCTC TGGTACGCCA ATTCCGCTCC 240

CCAGAAGCAA CCGGCGCCGA ATTGCGCGAA TTGCTGACCT GGAGACGGAA CATCGTCGTC 300

GGGTCCTTGC GCGATTGCGG CGGAAGCCGG GTCGGGTTGG GGACGAGACC CGAATCCGAG 360

CCTGGTGAAG AGGTTGTTCA TCGGAGATTT ATAGACGGAG ATGGATCGAG CGGTTTTGGG 420

GAAAGGGGAA GTGGGTTTGG CTCTTTTGGA TAGAGAGAGT GCAGCTTTGG AGAGAGACTG 480

GAGAGGTTTA GAGAGAGACG CGGCGGATAT TACCGGAGGA GAGGCGACGA GAGATAGCAT 540

TATCGAAGGG GAGGGAGAAA GAGTGACGTG GAGAAATAAG AAACCGTTAA GAGTCGGATA 600

FIG. 4A

TTTATCATAT TAAAAGCCCA ATGGGCCTGA ACCCATTTAA ACAAGACAGA TAAATGGGCC 660

GTGTGTTAAG TTAACAGAGT GTTAACGTTC GGTTTCAAAT GCCAACGCCA TAGGAACAAA 720

ACAAACGTGT CCTCAAGTAA ACCCCTGCCG TTTACACCTC AATGGCTGCA TGGTGAAGCC 780

ATTAACACGT GGCGTAGGAT GCATGACGAC GCCATTGACA CCTGACTCTC TTCCCTTCTC 840

TTCATATATC TCTAATCAAT TCAACTACTC ATTGTCATAG CTATTCGGAA AATACATACA 900

CATCCTTTTC TCTTCGATCT CTCTCAATTC ACAAGAAGCA AAGTCGACGG ATCCCTGCAG 960

TAAATTACGC CATGACTATT TTCATAGTCC AATAAGGCTG ATGTCGGGAG TCCAGTTTAT 1020

GAGCAATAAG GTGTTTAGAA TTTGATCAAT GTTTATAATA AAAGGGGGAA GATGATATCA 1080

CAGTCTTTTG TTCTTTTTGG CTTTTGTTAA ATTTGTGTGT TTCTATTTGT AAACCTCCTG 1140

TATATGTTGT ACTTCTTTCC CTTTTTAAGT GGTATCGTCT ATATGGTAAA ACGTTATGTT 1200

FIG. 4B

TGGTCTTTCC TTTTCTCTGT TTAGGATAAA AAGACTGCAT GTTTTATCTT TAGTTATATT 1260

ATGTTGAGTA AATGAACTTT CATAGATCTG GTTCCGTAGA GTAGACTAGC AGCCGAGCTG 1320

AGCTGAACTG AACAGCTGGC AATGTGAACA CTGGATGCAA GATCAGATGT GAAGATCTCT 1380

AATATGGTGG TGGGATTGAA CATATCGTGT CTATATTTTT GTTGGCATTA AGCTCTTAAC 1440

ATAGATATAA CTGATGCAGT CATTGGTTCA TACACATATA TAGTAAGGAA TTACAATGGC 1500

AACCCAAACT TCAAAAACAG TAGGCCACCT GAATTGCCTT ATCGAATAAG AGTTTGTTTC 1560

CCCCCACTTC ATGGGATGTA ATACATGGGA TTTGGGAGTT TGAATGAACG TTGAGACATG 1620

GCAGAACCTC TAGAGGTACC GGCGCGC 1647

FIG. 4C

```
GAA ATG AGT AGG TCT AGC GAA CAA GAT CTA CTC TCT ACC GAG ATT GTT      48
    Met Ser Arg Ser Ser Glu Gln Asp Leu Leu Ser Thr Glu Ile Val

AAC CGT GGG ATC GAA CCT TCC GGT CCA AAC GCC GGT TCA CCA ACG TTC      96
Asn Arg Gly Ile Glu Pro Ser Gly Pro Asn Ala Gly Ser Pro Thr Phe

TCG GTC AGA GTC CGG AGA CGT TTA CCG GAT TTT CTT CAA TCC GTA AAC     144
Ser Val Arg Val Arg Arg Arg Leu Pro Asp Phe Leu Gln Ser Val Asn

TTG AAG TAC GTG AAA CTT GGT TAT CAC TAC CTC ATA AAC CAT GCG GTT     192
Leu Lys Tyr Val Lys Leu Gly Tyr His Tyr Leu Ile Asn His Ala Val

TAC TTG GCG ACG ATA CCG GTT CTT GTG CTT GTG TTT AGT GCC GAA GTT     240
Tyr Leu Ala Thr Ile Pro Val Leu Val Leu Val Phe Ser Ala Glu Val

GGG AGT TTA AGC GGA GAA GAG ATT TGG AAG AAG CTT TGG GAC TAT GAT     288
Gly Ser Leu Ser Gly Glu Glu Ile Trp Lys Lys Leu Trp Asp Tyr Asp

ATC GCA ACC GTC ATC GGA TTC TTC GGT GTC TTT GTC TTG ACC GTT TGC     336
Ile Ala Thr Val Ile Gly Phe Phe Gly Val Phe Val Leu Thr Val Cys
```

FIG. 5A

```
GTC TAC TTC ATG TCT CGT CCA CGA TCT GTT TAT CTC ATT GAC TTC GCT    384
Val Tyr Phe Met Ser Arg Pro Arg Ser Val Tyr Leu Ile Asp Phe Ala

TGT TTC AAG CCT TCC GAT GAA CTT AAG GTG ACA AGA GAA GAG TTC ATA    432
Cys Phe Lys Pro Ser Asp Glu Leu Lys Val Thr Arg Glu Glu Phe Ile

GAT CTA GCT AGA AAA TCA GGC AAG TTC GAC GAA GAG ATC CTC GGA TTC    480
Asp Leu Ala Arg Lys Ser Gly Lys Phe Asp Glu Glu Ile Leu Gly Phe

AAG AAG AGG ATC CTT CAA GCC TCA GGA ATA GGC GAT GAA ACG TAC GTC    528
Lys Lys Arg Ile Leu Gln Ala Ser Gly Ile Gly Asp Glu Thr Tyr Val

CCA AGA TCA ATC TCT TCG TCG GAA AAC ACA ACA ACG ATG AAA GAA GGT    576
Pro Arg Ser Ile Ser Ser Ser Glu Asn Thr Thr Thr Met Lys Glu Gly

CGT GAA GAA GCC TCG ATG ATG ATA TTC GGC GCA CTC GAC GAA CTC TTC    624
Arg Glu Glu Ala Ser Met Met Ile Phe Gly Ala Leu Asp Glu Leu Phe

GAG AAG ACA CGT GTC AAA CCG AAA GAC GTA GGT GTC CTC GTG GTT AAC    672
Glu Lys Thr Arg Val Lys Pro Lys Asp Val Gly Val Leu Val Val Asn

TGC AGT ATC TTT AAC CCG ACT CCG TCA CTC TCC GCG ATG GTG ATT AAC    720
Cys Ser Ile Phe Asn Pro Thr Pro Ser Leu Ser Ala Met Val Ile Asn
```

FIG. 5B

```
CAC TAC AAG ATG AGA GGG AAC ATA CTT AGC TAC AAC CTA GGA GGG ATG    768
His Tyr Lys Met Arg Gly Asn Ile Leu Ser Tyr Asn Leu Gly Gly Met

GGT TGC TCA GCA GGA ATC ATA GCC GTT GAT CTT GCT CGT GAC ATG CTT    816
Gly Cys Ser Ala Gly Ile Ile Ala Val Asp Leu Ala Arg Asp Met Leu

CAG TCT AAC CCG AAT AGT TAC GCG GTG GTT GTG AGT ACC GAG ATG GTT    864
Gln Ser Asn Pro Asn Ser Tyr Ala Val Val Val Ser Thr Glu Met Val

GGG TAT AAT TGG TAC GTG GGA CGT GAC AAG TCA ATG GTT ATA CCT AAC    912
Gly Tyr Asn Trp Tyr Val Gly Arg Asp Lys Ser Met Val Ile Pro Asn

TGC TTC TTT AGG ATG GGT TGC TCC GCC GTT ATG CTG TCT AAC CGC CGC    960
Cys Phe Phe Arg Met Gly Cys Ser Ala Val Met Leu Ser Asn Arg Arg

CGT GAC TTC CGC CAT GCT AAG TAC CGC CTT GAG CAC ATT GTC CGG ACT   1008
Arg Asp Phe Arg His Ala Lys Tyr Arg Leu Glu His Ile Val Arg Thr

CAC AAG GCT GCC GAC GAC CGT AGC TTC AGG AGT GTG TAC CAG GAA GAA   1056
His Lys Ala Ala Asp Asp Arg Ser Phe Arg Ser Val Tyr Gln Glu Glu

GAT GAA CAA GGA TTC AAG GGA TTA AAA ATA AGC AGA GAC CTA ATG GAA   1104
Asp Glu Gln Gly Phe Lys Gly Leu Lys Ile Ser Arg Asp Leu Met Glu
```

FIG. 5C

```
GTT GGA GGT GAA GCT CTC AAG ACC AAC ATC ACC ACC TTA GGC CCT CTC   1152
Val Gly Gly Glu Ala Leu Lys Thr Asn Ile Thr Thr Leu Gly Pro Leu

GTC CTT CCT TTC TCC GAG CAG CTT CTC TTC TTT GCC GCT TTG ATC CGT   1200
Val Leu Pro Phe Ser Glu Gln Leu Leu Phe Phe Ala Ala Leu Ile Arg

AGA ACT TTC TCA CCC GCC GCC AAA ACT ACC ACC ACC TCC TCC TCA GCC   1248
Arg Thr Phe Ser Pro Ala Ala Lys Thr Thr Thr Thr Ser Ser Ser Ala

ACT GCG AAA ATC AAC GGA GCC AAG TCG TCA TCC TCC TCT GAT CTA TCC   1296
Thr Ala Lys Ile Asn Gly Ala Lys Ser Ser Ser Ser Ser Asp Leu Ser

AAG CCG TAC ATC CCG GAC TAC AAG CTT GCC TTC GAG CAT TTC TGC TTC   1344
Lys Pro Tyr Ile Pro Asp Tyr Lys Leu Ala Phe Glu His Phe Cys Phe

CAC GCG GCA AGC AAA GCG GTG CTT GAG GAG CTT CAG AAG AAT CTA GGC   1392
His Ala Ala Ser Lys Ala Val Leu Glu Glu Leu Gln Lys Asn Leu Gly

TTG AGT GAT GAG AAC ATG GAG GCT TCT AAG ATG ACT TTA CAC AGG TTT   1440
Leu Ser Asp Glu Asn Met Glu Ala Ser Lys Met Thr Leu His Arg Phe

GGA AAC ACT TCC AGC AGT GGA ATC TGG TAC GAG CTT GCT TAC ATG GAG   1488
Gly Asn Thr Ser Ser Ser Gly Ile Trp Tyr Glu Leu Ala Tyr Met Glu
```

FIG. 5D

```
GCC AAG GAG AGT GTT CGT AGA GGC GAT AGG GTT TGG CAG ATT GCT TTT   1536
Ala Lys Glu Ser Val Arg Arg Gly Asp Arg Val Trp Gln Ile Ala Phe

GGG TCA GGT TTT AAG TGT AAC AGT GTG GTT TGG AAG GCA ATG AGG AAG   1584
Gly Ser Gly Phe Lys Cys Asn Ser Val Val Trp Lys Ala Met Arg Lys

GTG AAG AAG CCG GCA AGG AAC AAT CCT TGG GTT GAT TGC ATT AAC CGT   1632
Val Lys Lys Pro Ala Arg Asn Asn Pro Trp Val Asp Cys Ile Asn Arg

TAC CCT GTC GCT CTC TGATCATTTA TTTTTAAAAT TATTATTTCT TCTTAATTAA   1687
Tyr Pro Val Ala Leu

ATCATCTATG ATCTCTCTTC CTTGTTGTTG GATGATAGAC GTTTGTTTGC TGGTCATTCG 1747

TATCTTAAGA CTTCTATAAG AATGGATGGT TCAAGTCCAA AAAAAAAAAA AAAAAAAAAA 1807

AAA                                                              1810
```

FIG. 5E

```
GTCGACAAA ATG ACG TCC ATT AAC GTA AAG CTC CTT TAC CAT TAC GTC ATA  51
          Met Thr Ser Ile Asn Val Lys Leu Leu Tyr His Tyr Val Ile

ACC AAC CTT TTC AAC CTT TGT TTC TTT CCA TTA ACG GCG ATC GTC GCC   99
Thr Asn Leu Phe Asn Leu Cys Phe Phe Pro Leu Thr Ala Ile Val Ala

GGA AAA GCC TAT CGG CTT ACC ATA GAC GAT CTT CAC CAC TTA TAC TAT  147
Gly Lys Ala Tyr Arg Leu Thr Ile Asp Asp Leu His His Leu Tyr Tyr

TCC TAT CTC CAA CAC AAC CTC ATA ACC ATT GCT CCA CTC TTT GCC TTC  195
Ser Tyr Leu Gln His Asn Leu Ile Thr Ile Ala Pro Leu Phe Ala Phe

ACC GTT TTC GGT TCG GTT CTC TAC ATC GCA ACC CGG CCC AAA CCG GTT  243
Thr Val Phe Gly Ser Val Leu Tyr Ile Ala Thr Arg Pro Lys Pro Val

TAC CTC GTT GAG TAC TCA TGC TAC CTT CCA CCA ACG CAT TGT AGA TCA  291
Tyr Leu Val Glu Tyr Ser Cys Tyr Leu Pro Pro Thr His Cys Arg Ser

AGT ATC TCC AAG GTC ATG GAT ATC TTT TAC CAA GTA AGA AAA GCT GAT  339
Ser Ile Ser Lys Val Met Asp Ile Phe Tyr Gln Val Arg Lys Ala Asp
```

FIG. 6A

```
CCT TCT CGG AAC GGC ACG TGC GAT GAC TCG TCC TGG CTT GAC TTC TTG   387
Pro Ser Arg Asn Gly Thr Cys Asp Asp Ser Ser Trp Leu Asp Phe Leu

AGG AAG ATT CAA GAA CGT TCA GGT CTA GGC GAT GAA ACC CAC GGG CCC   435
Arg Lys Ile Gln Glu Arg Ser Gly Leu Gly Asp Glu Thr His Gly Pro

GAG GGG CTG CTT CAG GTC CCT CCC CGG AAG ACT TTT GCG GCG GCG CGT   483
Glu Gly Leu Leu Gln Val Pro Pro Arg Lys Thr Phe Ala Ala Ala Arg

GAA GAG ACG GAG CAA GTT ATC ATT GGT GCG CTA GAA AAT CTA TTC AAG   531
Glu Glu Thr Glu Gln Val Ile Ile Gly Ala Leu Glu Asn Leu Phe Lys

AAC ACC AAT GTT AAC CCT AAA GAT ATA GGT ATA CTT GTG GTG AAC TCA   579
Asn Thr Asn Val Asn Pro Lys Asp Ile Gly Ile Leu Val Val Asn Ser

AGC ATG TTT AAT CCA ACT CCT TCG CTC TCC GCG ATG GTC GTT AAC ACT   627
Ser Met Phe Asn Pro Thr Pro Ser Leu Ser Ala Met Val Val Asn Thr

TTC AAG CTC CGA AGC AAC GTA AGA AGC TTT AAC CTT GGT GGC ATG GGT   675
Phe Lys Leu Arg Ser Asn Val Arg Ser Phe Asn Leu Gly Gly Met Gly

TGT AGT GCC GGC GTT ATA GCC ATT GAT CTA GCA AAG GAC TTG TTG CAT   723
Cys Ser Ala Gly Val Ile Ala Ile Asp Leu Ala Lys Asp Leu Leu His
```

FIG. 6B

```
GTC CAT AAA AAT ACG TAT GCT CTT GTG GTG AGC ACA GAG AAC ATC ACT   771
Val His Lys Asn Thr Tyr Ala Leu Val Val Ser Thr Glu Asn Ile Thr

TAT AAC ATT TAC GCT GGT GAT AAT AGG TCC ATG ATG GTT TCA AAT TGC   819
Tyr Asn Ile Tyr Ala Gly Asp Asn Arg Ser Met Met Val Ser Asn Cys

TTG TTC CGT GTT GGT GGG GCC GCT ATT TTG CTC TCC AAC AAG CCT AGA   867
Leu Phe Arg Val Gly Gly Ala Ala Ile Leu Leu Ser Asn Lys Pro Arg

GAT CGT AGA CGG TCC AAG TAC GAG CTA GTT CAC ACG GTT CGA ACG CAT   915
Asp Arg Arg Arg Ser Lys Tyr Glu Leu Val His Thr Val Arg Thr His

ACC GGA GCT GAC GAC AAG TCT TTT CGT TGC GTG CAA CAA GGA GAC GTT   963
Thr Gly Ala Asp Asp Lys Ser Phe Arg Cys Val Gln Gln Gly Asp Val

GAG AAC GGC AAA ACC GGA GTG AGT TTG TCC AAG GAC ATA ACC GAT GTT  1011
Glu Asn Gly Lys Thr Gly Val Ser Leu Ser Lys Asp Ile Thr Asp Val

GCT GGT CGA ACG GTT AAG AAA AAC ATA GCA ACG CTG GGT CCG TTG ATT  1059
Ala Gly Arg Thr Val Lys Lys Asn Ile Ala Thr Leu Gly Pro Leu Ile

CTT CCG TTA AGC GAG AAA CTT CTT TTT TTC GTT ACC TTC ATG GGC AAG  1107
Leu Pro Leu Ser Glu Lys Leu Leu Phe Phe Val Thr Phe Met Gly Lys
```

FIG. 6C

```
AAA CTT TTC AAA GAC AAA ATC AAA CAT TAT TAC GTC CCG GAC TTC AAG  1155
Lys Leu Phe Lys Asp Lys Ile Lys His Tyr Tyr Val Pro Asp Phe Lys

CTT GCT ATC GAC CAT TTT TGT ATA CAT GCC GGA GGC AAA GCC GTG ATT  1203
Leu Ala Ile Asp His Phe Cys Ile His Ala Gly Gly Lys Ala Val Ile

GAT GTG CTA GAG AAG AAC CTA GGC CTA GCA CCG ATC GAT GTA GAG GCA  1251
Asp Val Leu Glu Lys Asn Leu Gly Leu Ala Pro Ile Asp Val Glu Ala

TCA AGA TCA ACG TTA CAT AGA TTT GGA AAC ACT TCA TCT AGC TCA ATA  1299
Ser Arg Ser Thr Leu His Arg Phe Gly Asn Thr Ser Ser Ser Ser Ile

TGG TAT GAG TTG GCA TAC ATA GAA GCA AAA GGA AGG ATG AAG AAA GGT  1347
Trp Tyr Glu Leu Ala Tyr Ile Glu Ala Lys Gly Arg Met Lys Lys Gly

AAT AAA GTT TGG CAG ATT GCT TTA GGG TCA GGC TTT AAG TGT AAC AGT  1395
Asn Lys Val Trp Gln Ile Ala Leu Gly Ser Gly Phe Lys Cys Asn Ser

GCA GTT TGG GTG GCT CTA AAC AAT GTC AAA GCT TCC AAA TAGGATCC     1442
Ala Val Trp Val Ala Leu Asn Asn Val Lys Ala Ser Lys
```

FIG. 6D

```
GTCGACAAA ATG ACG TCC ATT AAC GTA AAG CTC CTT TAC CAT TAC GTC ATA  51
          Met Thr Ser Ile Asn Val Lys Leu Leu Tyr His Tyr Val Ile

ACC AAC CTT TTC AAC CTT TGC TTC TTT CCG TTA ACG GCG ATC GTC GCC   99
Thr Asn Leu Phe Asn Leu Cys Phe Phe Pro Leu Thr Ala Ile Val Ala

GGA AAA GCC TAT CGG CTT ACC ATA GAC GAT CTT CAC CAC TTA TAC TAT  147
Gly Lys Ala Tyr Arg Leu Thr Ile Asp Asp Leu His His Leu Tyr Tyr

TCC TAT CTC CAA CAC AAC CTC ATA ACC ATC GCT CCA CTC TTT GCC TTC  195
Ser Tyr Leu Gln His Asn Leu Ile Thr Ile Ala Pro Leu Phe Ala Phe

ACC GTT TTC GGT TCG GTT CTC TAC ATC GCA ACC CGG CCC AAA CCG GTT  243
Thr Val Phe Gly Ser Val Leu Tyr Ile Ala Thr Arg Pro Lys Pro Val

TAC CTC GTT GAG TAC TCA TGC TAC CTT CCA CCA ACG CAT TGT AGA TCA  291
Tyr Leu Val Glu Tyr Ser Cys Tyr Leu Pro Pro Thr His Cys Arg Ser

AGT ATC TCC AAG GTC ATG GAT ATC TTT TAT CAA GTA AGA AAA GCT GAT  339
Ser Ile Ser Lys Val Met Asp Ile Phe Tyr Gln Val Arg Lys Ala Asp
```

FIG. 7A

```
CCT TCT CGG AAC GGC ACG TGC GAT GAC TCG TCG TGG CTT GAC TTC TTG   387
Pro Ser Arg Asn Gly Thr Cys Asp Asp Ser Ser Trp Leu Asp Phe Leu

AGG AAG ATT CAA GAA CGT TCA GGT CTA GGC GAT GAA ACT CAC GGG CCC   435
Arg Lys Ile Gln Glu Arg Ser Gly Leu Gly Asp Glu Thr His Gly Pro

GAG GGG CTG CTT CAG GTC CCT CCC CGG AAG ACT TTT GCG GCG GCG CGT   483
Glu Gly Leu Leu Gln Val Pro Pro Arg Lys Thr Phe Ala Ala Ala Arg

GAA GAG ACG GAG CAA GTT ATC ATT GGT GCG CTA GAA AAT CTA TTC AAG   531
Glu Glu Thr Glu Gln Val Ile Ile Gly Ala Leu Glu Asn Leu Phe Lys

AAC ACC AAC GTT AAC CCT AAA GAT ATA GGT ATA CTT GTG GTG AAC TCA   579
Asn Thr Asn Val Asn Pro Lys Asp Ile Gly Ile Leu Val Val Asn Ser

AGC ATG TTT AAT CCA ACT CCA TCG CTC TCC GCG ATG GTC GTT AAC ACT   627
Ser Met Phe Asn Pro Thr Pro Ser Leu Ser Ala Met Val Val Asn Thr

TTC AAG CTC CGA AGC AAC GTA AGA AGC TTT AAC CTT GGT GGC ATG GGT   675
Phe Lys Leu Arg Ser Asn Val Arg Ser Phe Asn Leu Gly Gly Met Gly

TGT AGT GCC GGC GTT ATA GCC ATT GAT CTA GCA AAG GAC TTG TTG CAT   723
Cys Ser Ala Gly Val Ile Ala Ile Asp Leu Ala Lys Asp Leu Leu His
```

FIG. 7B

```
GTC CAT AAA AAT ACG TAT GCT CTT GTG GTG AGC ACA GAG AAC ATC ACT   771
Val His Lys Asn Thr Tyr Ala Leu Val Val Ser Thr Glu Asn Ile Thr

TAT AAC ATT TAC GCT GGT GAT AAT AGG TCC ATG ATG GTT TCA AAT TGC   819
Tyr Asn Ile Tyr Ala Gly Asp Asn Arg Ser Met Met Val Ser Asn Cys

TTG TTC CGT GTT GGT GGG GCC GCT ATT TTG CTC TCC AAC AAG CCT GGA   867
Leu Phe Arg Val Gly Gly Ala Ala Ile Leu Leu Ser Asn Lys Pro Gly

GAT CGT AGA CGG TCC AAG TAC GAG CTA GTT CAC ACG GTT CGA ACG CAT   915
Asp Arg Arg Arg Ser Lys Tyr Glu Leu Val His Thr Val Arg Thr His

ACC GGA GCT GAC GAC AAG TCT TTT CGT TGC GTG CAA CAA GGA GAC GAT   963
Thr Gly Ala Asp Asp Lys Ser Phe Arg Cys Val Gln Gln Gly Asp Asp

GAG AAC GGC AAA ATC GGA GTG AGT TTG TCC AAG GAC ATA ACC GAT GTT  1011
Glu Asn Gly Lys Ile Gly Val Ser Leu Ser Lys Asp Ile Thr Asp Val

GCT GGT CGA ACG GTT AAG AAA AAC ATA GCA ACG TTG GGT CCG TTG ATT  1059
Ala Gly Arg Thr Val Lys Lys Asn Ile Ala Thr Leu Gly Pro Leu Ile

CTT CCG TTA AGC GAG AAA CTT CTT TTT TTC GTT ACC TTC ATG GGC AAG  1107
Leu Pro Leu Ser Glu Lys Leu Leu Phe Phe Val Thr Phe Met Gly Lys
```

FIG. 7C

```
AAA CTT TTC AAA GAT AAA ATC AAA CAT TAC TAC GTC CCG GAT TTC AAA  1155
Lys Leu Phe Lys Asp Lys Ile Lys His Tyr Tyr Val Pro Asp Phe Lys

CTT GCT ATT GAC CAT TTT TGT ATA CAT GCC GGA GGC AGA GCC GTG ATT  1203
Leu Ala Ile Asp His Phe Cys Ile His Ala Gly Gly Arg Ala Val Ile

GAT GTG CTA GAG AAG AAC CTA GCC CTA GCA CCG ATC GAT GTA GAG GCA  1251
Asp Val Leu Glu Lys Asn Leu Ala Leu Ala Pro Ile Asp Val Glu Ala

TCA AGA TCA ACG TTA CAT AGA TTT GGA AAC ACT TCA TCT AGC TCA ATA  1299
Ser Arg Ser Thr Leu His Arg Phe Gly Asn Thr Ser Ser Ser Ser Ile

TGG TAT GAG TTG GCA TAC ATA GAA GCA AAA GGA AGG ATG AAG AAA GGT  1347
Trp Tyr Glu Leu Ala Tyr Ile Glu Ala Lys Gly Arg Met Lys Lys Gly

AAT AAA GTT TGG CAG ATT GCT TTA GGG TCA GGC TTT AAG TGT AAC AGT  1395
Asn Lys Val Trp Gln Ile Ala Leu Gly Ser Gly Phe Lys Cys Asn Ser

GCA GTT TGG GTG GCT CTA AAC AAT GTC AAA GCT TCC AAA TAGGATCC     1442
Ala Val Trp Val Ala Leu Asn Asn Val Lys Ala Ser Lys
```

FIG. 7D

```
AAG CTT AAA CTA GTG TAT CAT TAC CTA ATC TCC AAC GCT CTC TAC ATC   48
Lys Leu Lys Leu Val Tyr His Tyr Leu Ile Ser Asn Ala Leu Tyr Ile

CTC CTC CTT CCT CTC CTC GCC GCA ACA ATC GCT AAC CTC TCT TCT TTC   96
Leu Leu Leu Pro Leu Leu Ala Ala Thr Ile Ala Asn Leu Ser Ser Phe

ACC ATC AAC GAC CTC TCT CTC CTC TAC AAC ACA CTC CGT TTC CAT TTC  144
Thr Ile Asn Asp Leu Ser Leu Leu Tyr Asn Thr Leu Arg Phe His Phe

CTC TCC GCC ACA CTC GCC ACC GCA CTC TTG ATC TCT CTC TCC ACC GCT  192
Leu Ser Ala Thr Leu Ala Thr Ala Leu Leu Ile Ser Leu Ser Thr Ala

TAC TTC ACC ACC CGT CCT CGC CGT GTC TTC CTC CTC GAC TTC TCG TGT  240
Tyr Phe Thr Thr Arg Pro Arg Arg Val Phe Leu Leu Asp Phe Ser Cys

TAC AAA CCA GAC CCT TCA CTG ATC TGC ACT CGT GAA ACA TTC ATG GAC  288
Tyr Lys Pro Asp Pro Ser Leu Ile Cys Thr Arg Glu Thr Phe Met Asp

AGA TCT CAA CGT GTA GGC ATC TTC ACA GAA GAC AAC TTA GCT TTC CAA  336
Arg Ser Gln Arg Val Gly Ile Phe Thr Glu Asp Asn Leu Ala Phe Gln
```

FIG. 8A

```
CAA AAG ATC CTC GAA AGA TCC GGT CTA GGT CAG AAA ACT TAC TTC CCT  384
Gln Lys Ile Leu Glu Arg Ser Gly Leu Gly Gln Lys Thr Tyr Phe Pro

GAA GCT CTT CTT CGT GTT CCT CCT AAT CCT TGT ATG GAA GAA GCG AGA  432
Glu Ala Leu Leu Arg Val Pro Pro Asn Pro Cys Met Glu Glu Ala Arg

AAA GAG GCA GAA ACA GTT ATG TTC GGA GCT ATT GAC GCG GTT CTT GAG  480
Lys Glu Ala Glu Thr Val Met Phe Gly Ala Ile Asp Ala Val Leu Glu

AAG ACC GGT GTG AAA CCT AAA GAT ATT GGA ATC CTT GTG GTG AAT TGT  528
Lys Thr Gly Val Lys Pro Lys Asp Ile Gly Ile Leu Val Val Asn Cys

AGC TTG TTT AAT CCA ACA CCG TCA CTT TCT GCT ATG ATT GTG AAT AAG  576
Ser Leu Phe Asn Pro Thr Pro Ser Leu Ser Ala Met Ile Val Asn Lys

TAT AAG CTT AGA GGC AAC ATT TTG AGC TAT AAT TTC GGC GGG ATG GG   623
Tyr Lys Leu Arg Gly Asn Ile Leu Ser Tyr Asn Phe Gly Gly Met Gly
```

FIG. 8B

```
AAG CTT AAG TTA GGC TAC CAC TAT CTG ATC ACT CAC TTT TTT AAA CTC   48
Lys Leu Lys Leu Gly Tyr His Tyr Leu Ile Thr His Phe Phe Lys Leu

ATG TTC CTC CCT CTA ATG GCT GTT TTG TTC ATG AAT GTC TCA TTG TTA   96
Met Phe Leu Pro Leu Met Ala Val Leu Phe Met Asn Val Ser Leu Leu

AGC CTA AAC CAT CTT CAG CTC TAT TAC AAT TCC ACC GGA TTC ATC TTC  144
Ser Leu Asn His Leu Gln Leu Tyr Tyr Asn Ser Thr Gly Phe Ile Phe

GTC ATC ACT CTC GCC ATT GTC GGA TCC ATT GTC TTC TTC ATG TCT CGA  192
Val Ile Thr Leu Ala Ile Val Gly Ser Ile Val Phe Phe Met Ser Arg

CCT AGA TCC ATC TAC CTT CTA GAT TAC TCT TGC TAC CTC CCG CCT TCG  240
Pro Arg Ser Ile Tyr Leu Leu Asp Tyr Ser Cys Tyr Leu Pro Pro Ser

AGT CAA AAA GTT AGC TAC CAG AAA TTC ATG AAC AAC TCT AGT TTG ATT  288
Ser Gln Lys Val Ser Tyr Gln Lys Phe Met Asn Asn Ser Ser Leu Ile

CAA GAT TTC AGC GAA ACT TCT CTT GAG TTC CAG AGG AAG ATC TTG ATT  336
Gln Asp Phe Ser Glu Thr Ser Leu Glu Phe Gln Arg Lys Ile Leu Ile

CGC TCT GGT CTC GGT GAA GAG ACT TAT TTA CCG GAT TCT ATT CAC TCT  384
Arg Ser Gly Leu Gly Glu Glu Thr Tyr Leu Pro Asp Ser Ile His Ser
```

FIG. 9A

```
ATC CCT CCG CGT CCT ACT ATG GCT GCA GCG CGT GAA GAA GCG GAG CAG  432
Ile Pro Pro Arg Pro Thr Met Ala Ala Ala Arg Glu Glu Ala Glu Gln

GTA ATC TTC GGT GCA CTC GAC AAT CTT TTC GAG AAT ACA AAA ATC AAT  480
Val Ile Phe Gly Ala Leu Asp Asn Leu Phe Glu Asn Thr Lys Ile Asn

CCT AGG GAG ATT GGT GTT CTT GTT GTG AAT TGT AGT TTG TTT AAC CCC  528
Pro Arg Glu Ile Gly Val Leu Val Val Asn Cys Ser Leu Phe Asn Pro

ACG CCT TCT TTA TCC GCC ATG ATT GTT AAC AAG TAT AAG CTT AGA GGA  576
Thr Pro Ser Leu Ser Ala Met Ile Val Asn Lys Tyr Lys Leu Arg Gly

AAC ATT AAG AGC TTT AAT CTC GGC GGC ATG G                        607
Asn Ile Lys Ser Phe Asn Leu Gly Gly Met
```

FIG. 9B

```
AAG CTT AAA CTG GGG TAC CAC TAC CTC ATT ACT CAT CTC TTC AAG CTC   48
Lys Leu Lys Leu Gly Tyr His Tyr Leu Ile Thr His Leu Phe Lys Leu

TGT TTG GTT CCA TTA ATG GCG GTT TTA GTC ACA GAG ATC TCC CGA TTA   96
Cys Leu Val Pro Leu Met Ala Val Leu Val Thr Glu Ile Ser Arg Leu

ACA ACA GAC GAT CTT TAC CAG ATT TGC CTT CAT CTC CAA TAC AAT CTC  144
Thr Thr Asp Asp Leu Tyr Gln Ile Cys Leu His Leu Gln Tyr Asn Leu

GTT GCT TTC ATC TTT CTC TCT GCT TTA GCT ATC TTT GGC TCC ACC GTT  192
Val Ala Phe Ile Phe Leu Ser Ala Leu Ala Ile Phe Gly Ser Thr Val

TAC ATC ATG AGT CGT CCC AGA TCT GTT TAT CTC GTT GAT TAC TCT TGT  240
Tyr Ile Met Ser Arg Pro Arg Ser Val Tyr Leu Val Asp Tyr Ser Cys

TAT CTT CCT CCG GAG AGT CTT CAG GTT AAG TAT CAG AAG TTT ATG GAT  288
Tyr Leu Pro Pro Glu Ser Leu Gln Val Lys Tyr Gln Lys Phe Met Asp

CAT TCT AAG TTG ATT GAA GAT TTC AAT GAG TCA TCT TTA GAG TTT CAG  336
His Ser Lys Leu Ile Glu Asp Phe Asn Glu Ser Ser Leu Glu Phe Gln
```

FIG. 10A

```
AGG AAG ATT CTT GAA CGT TCT GGT TTA GGA GAA GAG ACT TAT CTC CCT  384
Arg Lys Ile Leu Glu Arg Ser Gly Leu Gly Glu Glu Thr Tyr Leu Pro

GAA GCT TTA CAT TGT ATC CCT CCG AGG CCT ACG ATG ATG GCG GCT CGT  432
Glu Ala Leu His Cys Ile Pro Pro Arg Pro Thr Met Met Ala Ala Arg

GAG GAA GCT GAG CAG GTA ATG TTT GGT GCT CTT GAT AAG CTT TTC GAG  480
Glu Glu Ala Glu Gln Val Met Phe Gly Ala Leu Asp Lys Leu Phe Glu

AAT ACC AAG ATT AAC CCT AGG GAT ATT GGT GTG TTG GTT GTG AAT TGT  528
Asn Thr Lys Ile Asn Pro Arg Asp Ile Gly Val Leu Val Val Asn Cys

AGC TTG TTT AAT CCT ACA CCT TCG TTG TCA GCT ATG ATT GTT AAC AAG  576
Ser Leu Phe Asn Pro Thr Pro Ser Leu Ser Ala Met Ile Val Asn Lys

TAT AAG CTT AGA GGG AAT GTT AAG AGT TTT AAC CTG GGG GGC ATT G    622
Tyr Lys Leu Arg Gly Asn Val Lys Ser Phe Asn Leu Gly Gly Ile
```

FIG. 10B

```
AAG CTT AAG TTA TGG TAT CAC TAC CTG ATT TCT CAC CTT TTT AAG CTC     48
Lys Leu Lys Leu Trp Tyr His Tyr Leu Ile Ser His Leu Phe Lys Leu

TTG TTG GTT CCT TTA ATG GCG GTT CTG TTC ACG AAT GTC TCC CGG TTA     96
Leu Leu Val Pro Leu Met Ala Val Leu Phe Thr Asn Val Ser Arg Leu

AGC CTA AAC CAG CTC TGT CTC GAT CTC TCT CTC CAG CTC CAG TTC AAT    144
Ser Leu Asn Gln Leu Cys Leu Asp Leu Ser Leu Gln Leu Gln Phe Asn

CTC GTC GGA TTC ATC TTC TTC ATT ACC GTC TCC ATT TTC GGA TTC ACA    192
Leu Val Gly Phe Ile Phe Phe Ile Thr Val Ser Ile Phe Gly Phe Thr

GTT ATC TTC ATG TCC CGA CCT AGA TCC GTT TAC CTC CTC GAC TAC TCA    240
Val Ile Phe Met Ser Arg Pro Arg Ser Val Tyr Leu Leu Asp Tyr Ser

TGT TAC CTC CCG CCG TCG AAT CTC AAA GTT AGC TAC CAG ACA TTC ATG    288
Cys Tyr Leu Pro Pro Ser Asn Leu Lys Val Ser Tyr Gln Thr Phe Met

AAT CAT TCT AAA CTG ATT GAA GAT TTC GAC GAG TCG TCG CTT GAG TTC    336
Asn His Ser Lys Leu Ile Glu Asp Phe Asp Glu Ser Ser Leu Glu Phe
```

FIG. 11A

```
CAG CGG AAG ATC CTG AAG CGA TCC GGT CTC GGC GAA GAG ACT TAC CTC    384
Gln Arg Lys Ile Leu Lys Arg Ser Gly Leu Gly Glu Glu Thr Tyr Leu

CCG GAA TCT ATC CAC TGC ATC CCG CCG CGT CCG ACT ATG GCG GCG GCG    432
Pro Glu Ser Ile His Cys Ile Pro Pro Arg Pro Thr Met Ala Ala Ala

CGT GAG GAA TCG GAG CAG GTA ATC TTC GGT GCA CTC GAC AAT CTC TTC    480
Arg Glu Glu Ser Glu Gln Val Ile Phe Gly Ala Leu Asp Asn Leu Phe

GAG AAT ACC AAA ATC GAC CCT AGG GAG ATT GGT GTT GTG GTG GTG AAC    528
Glu Asn Thr Lys Ile Asp Pro Arg Glu Ile Gly Val Val Val Val Asn

TGC AGC TTG TTT AAC CCG ACG CCT TCT TTA TCC GCC ATG ATT GTG AAC    576
Cys Ser Leu Phe Asn Pro Thr Pro Ser Leu Ser Ala Met Ile Val Asn

AAG TAT AAG CTT AGA GGA AAC GTG AAG AGC TTT AAT CTC GGT GGC ATG G  625
Lys Tyr Lys Leu Arg Gly Asn Val Lys Ser Phe Asn Leu Gly Gly Met>
```

FIG. 11B

```
GTTCATTGAT TTGTTTGAGA CTCTGTTGCA GAAATCTCCA C ATG GAT GAT GAA TCC   56
                                                  Met Asp Asp Glu Ser

GTT AAT GGA GGA TCC GTA CAG ATC CGG ACC CGA AAG TAC GTC AAG CTG    104
Val Asn Gly Gly Ser Val Gln Ile Arg Thr Arg Lys Tyr Val Lys Leu

GGT TAT CAC TAC CTG ATT TCT CAC CTT TTT AAG CTC TTG TTG GTT CCT    152
Gly Tyr His Tyr Leu Ile Ser His Leu Phe Lys Leu Leu Leu Val Pro

TTA ATG GCG GTT CTG TTC ACG AAT GTC TCC CGG TTA AGC CTA AAC CAG    200
Leu Met Ala Val Leu Phe Thr Asn Val Ser Arg Leu Ser Leu Asn Gln

CTC TGT CTC GAT CTC TCT CTC CAG CTC CAG TTC AAT CTC GTC GGA TTC    248
Leu Cys Leu Asp Leu Ser Leu Gln Leu Gln Phe Asn Leu Val Gly Phe

ATC TTC TTC ATT ACC GCC TCC ATT TTC GGA TTC ACA GTT ATC TTC ATG    296
Ile Phe Phe Ile Thr Ala Ser Ile Phe Gly Phe Thr Val Ile Phe Met

TCC CGA CCT AGA TCC GTT TAC CTC CTC GAC TAC TCA TGT TAC CTC CCG    344
Ser Arg Pro Arg Ser Val Tyr Leu Leu Asp Tyr Ser Cys Tyr Leu Pro
```

FIG. 12A

```
NCG GCG AAT CTC AAA GTT AGC TAC CAG ACA TTC ATG AAT CAT TCT AAA    392
Xxx Ala Asn Leu Lys Val Ser Tyr Gln Thr Phe Met Asn His Ser Lys

CTG ATT GAA GAT TTC GAC GAG TCG TCG CTT GAG TTC CAG CGG AAG ATC    440
Leu Ile Glu Asp Phe Asp Glu Ser Ser Leu Glu Phe Gln Arg Lys Ile

CTG AAG CGA TCC GGT CTC GGC GAA GAG ACT TAC CTC CCG GAA TCT ATC    488
Leu Lys Arg Ser Gly Leu Gly Glu Glu Thr Tyr Leu Pro Glu Ser Ile

CAC TGC ATC CCG CCG CGT CCG ACT ATG GCG GCG GCG CGT GAG GAA TCG    536
His Cys Ile Pro Pro Arg Pro Thr Met Ala Ala Ala Arg Glu Glu Ser

GAG CAG GTA ATC TTC GGT GCA CTC GAC AAT CTC TTC GAG AAT ACC AAA    584
Glu Gln Val Ile Phe Gly Ala Leu Asp Asn Leu Phe Glu Asn Thr Lys

ATC GAC CCT AGG GAG ATT GGT GTT GTG GTG GTG AAC TGC AGC TTG TTT    632
Ile Asp Pro Arg Glu Ile Gly Val Val Val Val Asn Cys Ser Leu Phe

AAC CCG ACG CCT TCT TTA TCC GCC ATG ATT GTG AAC AAG TAT AAG CTT    680
Asn Pro Thr Pro Ser Leu Ser Ala Met Ile Val Asn Lys Tyr Lys Leu
```

FIG. 12B

```
AGA GGA AAC GTG AAG AGC TTT AAC CTC GGA GGA ATG GGA TGT AGG GCT    728
Arg Gly Asn Val Lys Ser Phe Asn Leu Gly Gly Met Gly Cys Arg Ala

GGT GTC ATC GCC GTT GAT CTC GCT AAT GAC ATT TTA CAG CTC CAT AGA    776
Gly Val Ile Ala Val Asp Leu Ala Asn Asp Ile Leu Gln Leu His Arg

AAC ACA TTA GCT CTT GTG GTT AGC ACA GAG AAC ATC ACT CAG AAT TGG    824
Asn Thr Leu Ala Leu Val Val Ser Thr Glu Asn Ile Thr Gln Asn Trp

TAC TTT GGT AAC AAC AAA GCA ATG TTG ATT CCT AAT TGC TTG TTT AGG    872
Tyr Phe Gly Asn Asn Lys Ala Met Leu Ile Pro Asn Cys Leu Phe Arg

GTT GGT GGA TCC GCG GTT CTG CTT TCG AAC AAG CCT CGT GAT CGA AAA    920
Val Gly Gly Ser Ala Val Leu Leu Ser Asn Lys Pro Arg Asp Arg Lys

CGA TCC AAG TAT AAA CTT GTT CAC ACG GTA CGG ACT CAT AAA GGA TCT    968
Arg Ser Lys Tyr Lys Leu Val His Thr Val Arg Thr His Lys Gly Ser

GAT GAG AAA GCA TTC AAC TGT GTG TAC CAA GAA CAA GAC GAG GAC TTG   1016
Asp Glu Lys Ala Phe Asn Cys Val Tyr Gln Glu Gln Asp Glu Asp Leu
```

FIG. 12C

```
AAA ACC GGA GTT TCT TTG TCT AAA GAC CTA ATG TCT ATA GCT GGA GAA   1064
Lys Thr Gly Val Ser Leu Ser Lys Asp Leu Met Ser Ile Ala Gly Glu

GCT CTA AAG ACA AAT ATC ACC ACT TTG GGT CCT CTG GTT CTT CCA ATA   1112
Ala Leu Lys Thr Asn Ile Thr Thr Leu Gly Pro Leu Val Leu Pro Ile

AGC GAG CAG ATT CTG TTC ATT GCG ACT TTT GTT GCA AAG AGA TTG TTC   1160
Ser Glu Gln Ile Leu Phe Ile Ala Thr Phe Val Ala Lys Arg Leu Phe

AGT GCC AAG AAG AAG AAG AAG AAG CCT TAC ATA CCG GAT TTC AAG CTT   1208
Ser Ala Lys Lys Lys Lys Lys Lys Pro Tyr Ile Pro Asp Phe Lys Leu

GCC TTT GAT CAT TTC TGT ATT CAC GCA GGA GGT AGA GCC GTG ATC GAT   1256
Ala Phe Asp His Phe Cys Ile His Ala Gly Gly Arg Ala Val Ile Asp

GAA CTA GAG AAG AGT TTA AAG CTA TTG CCA AAA CAT GTG GAG GCT TCT   1304
Glu Leu Glu Lys Ser Leu Lys Leu Leu Pro Lys His Val Glu Ala Ser

AGA ATG ACA TTG CAT AGA TTT GGA AAC ACT TCA TCG AGC TCT ATT TGG   1352
Arg Met Thr Leu His Arg Phe Gly Asn Thr Ser Ser Ser Ser Ile Trp
```

FIG. 12D

```
TAT GAA TTA GCT TAC ACA GAA GCT AAA GGA AGA ATG AGA AAA GGG AAT   1400
Tyr Glu Leu Ala Tyr Thr Glu Ala Lys Gly Arg Met Arg Lys Gly Asn

CGA GTT TGG CAG ATT GCT TTT GGA AGC GGC TTT AAG TGT AAC AGC GCG   1448
Arg Val Trp Gln Ile Ala Phe Gly Ser Gly Phe Lys Cys Asn Ser Ala

GTT TGG GTG GCT CTT CGT GAT GTC GAG CCC TCG GTT AAC AAT CCT TGG   1496
Val Trp Val Ala Leu Arg Asp Val Glu Pro Ser Val Asn Asn Pro Trp

GAA CAT TGC ATC CAT AGA TAT CCG GTT AAG ATC GAT CTC TGATTTCAGC    1545
Glu His Cys Ile His Arg Tyr Pro Val Lys Ile Asp Leu

TTAACCGGTA AAATTGGTCT GTACATATAT TTACCACTGA GTAAAGACAT CAGTTAATGA 1605

TTTGTTGTTA CTCAATTGGG CTAAGTGTAT TATTATATGT GTTGTATATA ATAAAGGTAG 1665

AACGTAAATT TACTAAGAAA AAAAAAAAAA AAAAAAAAA                       1704
```

FIG. 12E

```
CA ATG ACG TCT GTG AAC GTA AAA CTC CTT TAC CAT TAC GTC ATA ACC      47
   Met Thr Ser Val Asn Val Lys Leu Leu Tyr His Tyr Val Ile Thr

AAC TTT TTC AAC CTC TGT TTC TTC CCA CTG ACG GGG ATC CTC GCC GGA    95
Asn Phe Phe Asn Leu Cys Phe Phe Pro Leu Thr Gly Ile Leu Ala Gly

AAA GGC TCT CGT CTT ACC ACA AAC GAT CTC CAC CAC TTC TAT TCA TAT    143
Lys Gly Ser Arg Leu Thr Thr Asn Asp Leu His His Phe Tyr Ser Tyr

CTC CAA CAC AAN CTT ATA ACC TTA ACC CTA CTC TTT GGC TTC ACC GTT    191
Leu Gln His Xxx Leu Ile Thr Leu Thr Leu Leu Phe Gly Phe Thr Val

TTT GGT TCG GTT CTC TAC TTC GTA ANC CGA CCC AAA CCG GTT TAC CTC    239
Phe Gly Ser Val Leu Tyr Phe Val Xxx Arg Pro Lys Pro Val Tyr Leu

GTT GAC TAC TCC TGC TAC CTT CCA CCA CAA CAT CTT AGC GCT GGT ATC    287
Val Asp Tyr Ser Cys Tyr Leu Pro Pro Gln His Leu Ser Ala Gly Ile

TCT AAG ACC ATG GAA ATC TTT TAT CAA ATA AGA AAA TCT GAT CCT TTA    335
Ser Lys Thr Met Glu Ile Phe Tyr Gln Ile Arg Lys Ser Asp Pro Leu
```

FIG. 13A

```
CGA AAC GTG GCA TTA GAT GAT TCG TCT TCT CTT GAT TTC TTG AGA AAG    383
Arg Asn Val Ala Leu Asp Asp Ser Ser Ser Leu Asp Phe Leu Arg Lys

ATT CAA GAG CGT TCA GGT CTA GGC GAT GAA ACC TAC GGC CCC GAG GGA    431
Ile Gln Glu Arg Ser Gly Leu Gly Asp Glu Thr Tyr Gly Pro Glu Gly

CTG TTT GAG ATT CCT CCG AGG AAG AAT TTA GCG TCG GCG CGT GAA GAG    479
Leu Phe Glu Ile Pro Pro Arg Lys Asn Leu Ala Ser Ala Arg Glu Glu

ACG GAG CAA GTA ATC AAC GGT GCG CTA AAA AAT CTA TTC GAG AAC AAC    527
Thr Glu Gln Val Ile Asn Gly Ala Leu Lys Asn Leu Phe Glu Asn Asn

AAA GTT AAC CCT AAA GAG ATT GGT ATA CTT GTG GTG AAC TCA AGC ATG    575
Lys Val Asn Pro Lys Glu Ile Gly Ile Leu Val Val Asn Ser Ser Met

TTT AAT CCG ACT CCT TCG TTA TCC GCG ATG GTA GTT AAT ACT TCC AAG    623
Phe Asn Pro Thr Pro Ser Leu Ser Ala Met Val Val Asn Thr Ser Lys

CTC CGA AGC AAC ATC AAA AGC TTT AAT CTT GGA GGA ATG GGT TGC AGT    671
Leu Arg Ser Asn Ile Lys Ser Phe Asn Leu Gly Gly Met Gly Cys Ser
```

FIG. 13B

```
GCT GGT GTT ATC GCC ATT GAT CTA GCT AAA GAC TTG TTG CAT GTT CAT    719
Ala Gly Val Ile Ala Ile Asp Leu Ala Lys Asp Leu Leu His Val His

AAA AAC ACA TAT GCT CTT GTG GTG AGC ACA GAG AAC ATC ACT CAA AAC    767
Lys Asn Thr Tyr Ala Leu Val Val Ser Thr Glu Asn Ile Thr Gln Asn

ATT TAT ACC GGT GAT AAC AGA TCC ATG ATG GTT TCG AAT TGC TTG TTC    815
Ile Tyr Thr Gly Asp Asn Arg Ser Met Met Val Ser Asn Cys Leu Phe

CGT GTC GGT GGG GCA GCG ATT CTG CTC TCC AAC AAG CCG GGG GAT CGA    863
Arg Val Gly Gly Ala Ala Ile Leu Leu Ser Asn Lys Pro Gly Asp Arg

AGA CGG TCC AAG TAC AAG CTA GCT CAC ACG GTT CGA ACG CAT ACC GGA    911
Arg Arg Ser Lys Tyr Lys Leu Ala His Thr Val Arg Thr His Thr Gly

GCT GAC GAC AAG TCT TTT GGA TGT GTG CGG CAA GAA GAA GAT GAT AGC    949
Ala Asp Asp Lys Ser Phe Gly Cys Val Arg Gln Glu Glu Asp Asp Ser

GGT AAA ACC GGA GTT AGT TTG TCA AAA GAC ATA ACC GTT GTT GCC GGG   1007
Gly Lys Thr Gly Val Ser Leu Ser Lys Asp Ile Thr Val Val Ala Gly
```

FIG. 13C

```
ATA ACG GTT CAG AAA AAC ATA ACA ACA TTG GGT CCG TTG GTT CTT CCT   1055
Ile Thr Val Gln Lys Asn Ile Thr Thr Leu Gly Pro Leu Val Leu Pro

CTG AGC GAA AAA ATC CTT TTT GTC GTT ACA TTC GTA GCC AAG AAA CTA   1103
Leu Ser Glu Lys Ile Leu Phe Val Val Thr Phe Val Ala Lys Lys Leu

TTA AAA GAT AAG ATC AAA CAC TAT TAC GTG CCG GAT TTC AAA CTT GCA   1151
Leu Lys Asp Lys Ile Lys His Tyr Tyr Val Pro Asp Phe Lys Leu Ala

GTA GAT CAT TTC TGT ATT CAT GCG GGA GGT AGA GCC GTG ATA GAT GTG   1199
Val Asp His Phe Cys Ile His Ala Gly Gly Arg Ala Val Ile Asp Val

TTA GAG AAG AAC TTA GGG CTA TCG CCG ATA GAT GTG GAG GCA TCA AGA   1247
Leu Glu Lys Asn Leu Gly Leu Ser Pro Ile Asp Val Glu Ala Ser Arg

TCA ACA TTA CAT AGA TTT GGG AAT ACA TCG TCT AGT TCA ATT TGG TAT   1295
Ser Thr Leu His Arg Phe Gly Asn Thr Ser Ser Ser Ser Ile Trp Tyr

GAA TTA GCA TAC ATA GAG CCA AAA GGA AGG ATG AAG AAA GGT AAT AAA   1343
Glu Leu Ala Tyr Ile Glu Pro Lys Gly Arg Met Lys Lys Gly Asn Lys
```

FIG. 13D

```
GCT TGC CAA ATA GCT GGT GGG TCA GGT TTT AAG TGT AAT AGT GCG GTT   1391
Ala Cys Gln Ile Ala Gly Gly Ser Gly Phe Lys Cys Asn Ser Ala Val

TGG GTC GCT TTA CGC AAT GTC GAG GCT TCA GCT AAT AGT CCT TGG GAA   1439
Trp Val Ala Leu Arg Asn Val Glu Ala Ser Ala Asn Ser Pro Trp Glu

CAT TGC ATT CAC AAA TAT CCG GTT CAA ATG TAT TCT GGT TCA TCA AAG   1487
His Cys Ile His Lys Tyr Pro Val Gln Met Tyr Ser Gly Ser Ser Lys

TCA GAG ACT CCT GTC CAA AAC GGT CGG TCC TAATTTATGT ATCTCAAATG     1537
Ser Glu Thr Pro Val Gln Asn Gly Arg Ser

ATGTTGTCCA CTTTCTCTTT TTTTTTTTCT TTTTTTAGTT ATAATTTAAT GGTTACGATG 1597

TTTTGTCTAG GTCGTTATAA ATAAAGAATA CATGGGTGTT ACTAGTATAA AAAAAAAAAA 1657

AAAAAAA                                                          1664
```

FIG. 13E

```
CTTTCTTCTT CCCCAACA ATG ACC CAT AAC CAA AAC CAA CCT CAC CGG GCA      51
                    Met Thr His Asn Gln Asn Gln Pro His Arg Ala

GTT CCG GTT CAC GTT ACA AAC TCC GAT CAA AAC CAA AAC CAA AAC CAA      99
Val Pro Val His Val Thr Asn Ser Asp Gln Asn Gln Asn Gln Asn Gln

AAC AAT CTC CCA AAT TTT CTC TTA TCT GTT CGG CTC AAA TAT GTA AAA     147
Asn Asn Leu Pro Asn Phe Leu Leu Ser Val Arg Leu Lys Tyr Val Lys

CTT GGG TAC CAT TAC CTA ATC TCC AAC GGT CTC TAC ATC CTC CTC CTC     195
Leu Gly Tyr His Tyr Leu Ile Ser Asn Gly Leu Tyr Ile Leu Leu Leu

CCT CTC CTC GGC GGC ACA ATC GTA AAA CTC TCT TCC TTC ACA CTC AAC     243
Pro Leu Leu Gly Gly Thr Ile Val Lys Leu Ser Ser Phe Thr Leu Asn

GAA CTC TCT CTC CTC TAC AAC CAC CTC CGT TTT CAT TTC CTC TCC GCC     291
Glu Leu Ser Leu Leu Tyr Asn His Leu Arg Phe His Phe Leu Ser Ala

ACA CTC GCT ACC GGA CTC TTA ATC TCT CTC TCC ACC GCC TAC TTC ACC     339
Thr Leu Ala Thr Gly Leu Leu Ile Ser Leu Ser Thr Ala Tyr Phe Thr
```

FIG. 14A

```
ACC CGT CCT CGT CAT GTC TTC CTC CTC GAC TTC TCA TGC TAC AAA CCT    387
Thr Arg Pro Arg His Val Phe Leu Leu Asp Phe Ser Cys Tyr Lys Pro

GAC CCT TCC TTA ATA TGC ACT CGT GAA ACA TTC ATG GAC CGA TCT CAA    435
Asp Pro Ser Leu Ile Cys Thr Arg Glu Thr Phe Met Asp Arg Ser Gln

CGT GTA GGT ATC TTC ACA GAA GAC AAC CTC GCT TTT CAA CAA AAG ATC    483
Arg Val Gly Ile Phe Thr Glu Asp Asn Leu Ala Phe Gln Gln Lys Ile

CTC GAA AGA TCC GGT CTT GGG CAG AAA ACT TAC TTC CCT GAA GCT CTT    531
Leu Glu Arg Ser Gly Leu Gly Gln Lys Thr Tyr Phe Pro Glu Ala Leu

CTT CGT GTT CCT CCC AAT CCT TGT ATG GAA GAA GCG AGA AAA GAA GCA    579
Leu Arg Val Pro Pro Asn Pro Cys Met Glu Glu Ala Arg Lys Glu Ala

GAG ACT GTT ATG TTC GGA GCT ATA GAC TCT GTT CTT GAG AAA ACC GGT    627
Glu Thr Val Met Phe Gly Ala Ile Asp Ser Val Leu Glu Lys Thr Gly

GTG AAA CCT AAA GAT ATC GGA ATC CTT GTC GTG AAT TGT AGT TTG TTT    675
Val Lys Pro Lys Asp Ile Gly Ile Leu Val Val Asn Cys Ser Leu Phe

AAT CCG ACG CCG TCA CTT TCC GCC ATG ATT GTG AAT AAG TAT AAG CTT    723
Asn Pro Thr Pro Ser Leu Ser Ala Met Ile Val Asn Lys Tyr Lys Leu
```

FIG. 14B

```
AGA GGA AAC ATT TTG AGC TAT AAT CTC GGT GGA ATG GGT TGT AGT GCT    771
Arg Gly Asn Ile Leu Ser Tyr Asn Leu Gly Gly Met Gly Cys Ser Ala

GGA CTT ATC TCC ATT GAT CTC GCT AAA CAG CTT CTT CAG GTC CAA CCA    819
Gly Leu Ile Ser Ile Asp Leu Ala Lys Gln Leu Leu Gln Val Gln Pro

AAC TCA TAC GCA CTA GTG GTG AGC ACA GAG AAC ATA ACC TTA AAC TGG    867
Asn Ser Tyr Ala Leu Val Val Ser Thr Glu Asn Ile Thr Leu Asn Trp

TAC TTA GGC AAC GAC CGA TCA ATG CTT CTC TCT AAC TGC ATC TTC CGT    915
Tyr Leu Gly Asn Asp Arg Ser Met Leu Leu Ser Asn Cys Ile Phe Arg

ATG GGA GGA GCC GCC GTA CTT CTC TCA AAC CGT TCC TCC GAT CGC ACC    963
Met Gly Gly Ala Ala Val Leu Leu Ser Asn Arg Ser Ser Asp Arg Thr

CGT TCA AAA TAT CAG CTC ATC CAC CCC GTC CGT ACC CAC AAA GGA GCC   1011
Arg Ser Lys Tyr Gln Leu Ile His Pro Val Arg Thr His Lys Gly Ala

AAC GAC AAC GCA TTT GGC TGC GTT TAC CAA CGA GAA GAC AAC AAC GAA   1059
Asn Asp Asn Ala Phe Gly Cys Val Tyr Gln Arg Glu Asp Asn Asn Glu
```

FIG. 14C

```
GAA GAA ACC GCC AAA ATC GGA GTC TCA CTC TCT AAA AAC CTA ATG GCA   1107
Glu Glu Thr Ala Lys Ile Gly Val Ser Leu Ser Lys Asn Leu Met Ala

ATA GCC GGA GAA GCT CTC AAG ACA AAC ATA ACA ACA CTC GGA CCA CTA   1155
Ile Ala Gly Glu Ala Leu Lys Thr Asn Ile Thr Thr Leu Gly Pro Leu

GTC TTA CCA ATG TCC GAA CAG ATT CTG TTT TTC CCA ACA CTC GTG GCT   1203
Val Leu Pro Met Ser Glu Gln Ile Leu Phe Phe Pro Thr Leu Val Ala

CGA AAA ATC TTC AAA GTC AAG AAA ATA AAG CCT TAC ATA CCC GAT TTC   1251
Arg Lys Ile Phe Lys Val Lys Lys Ile Lys Pro Tyr Ile Pro Asp Phe

AAG CTA GCT TTC GAG CAT TTC TGC ATC CAT GCG GGA GGT AGA GCA GTG   1299
Lys Leu Ala Phe Glu His Phe Cys Ile His Ala Gly Gly Arg Ala Val

CTT GAT GAG ATA GAG AAG AAT TTG GAT TTA TCA GAG TGG CAT ATG GAA   1347
Leu Asp Glu Ile Glu Lys Asn Leu Asp Leu Ser Glu Trp His Met Glu

CCA TCG AGG ATG ACT TTA AAC CGG TTT GGT AAT ACT TCG AGT AGC TCA   1395
Pro Ser Arg Met Thr Leu Asn Arg Phe Gly Asn Thr Ser Ser Ser Ser
```

FIG. 14D

```
CTT TGG TAT GAA CTT GCG TAT AGT GAA GCT AAA GGG AGG ATT AAG AGA   1443
Leu Trp Tyr Glu Leu Ala Tyr Ser Glu Ala Lys Gly Arg Ile Lys Arg

GGA GAT AGG ACT TGC CAA ATT GCG TTT GGA TCG GGA TTT AAG TGT AAT   1491
Gly Asp Arg Thr Cys Gln Ile Ala Phe Gly Ser Gly Phe Lys Cys Asn

AGT GCG GTT TGG AAA GCT TTG AGA ACC ATT GAT CCT ATT GAT GAG AAG   1539
Ser Ala Val Trp Lys Ala Leu Arg Thr Ile Asp Pro Ile Asp Glu Lys

AAG AAT CCA TGG AGT GAT GAG ATT CAT GAG TTT CCA GTT TCT GTT CCT   1587
Lys Asn Pro Trp Ser Asp Glu Ile His Glu Phe Pro Val Ser Val Pro

AGG ATC ACT CCA GTT ACT TCT AAC TAGTGTTTTT TTTTTGGGTC CAACTAGGGA  1641
Arg Ile Thr Pro Val Thr Ser Asn

TAATATTTGT TATGGTTTTG TTCTTACGTA CGTACTTTAA GTGATTTAGT CTAAAAATAA 1701

ATTGGTTTCA TAAAAAAAAA AAAAAAAAAA A                               1732
```

FIG. 14E

```
AAG CTT AAA CTA GTA TAC CAT TAC TTG ATC TCC AAC GCC ATG TAT TTG   48
Lys Leu Lys Leu Val Tyr His Tyr Leu Ile Ser Asn Ala Met Tyr Leu

TTA ATG GTG CCG CTT CTA GCA GTA GCC TTT GCT CAT CTC TCC ACG TTG   96
Leu Met Val Pro Leu Leu Ala Val Ala Phe Ala His Leu Ser Thr Leu

ACG ATT CAA GAT CTG GTT CAT CTT TGG GAA CAG CTT AAG TTC AAT TTA  144
Thr Ile Gln Asp Leu Val His Leu Trp Glu Gln Leu Lys Phe Asn Leu

CTG TCA GTA ACT CTC TGC TCG AGC CTT ATG GTG TTT TTA GGG ACT CTG  192
Leu Ser Val Thr Leu Cys Ser Ser Leu Met Val Phe Leu Gly Thr Leu

TAT TTC ATG AGC CGA CCG ACG AAG ATT TAC TTG GTG GAT TTC TCT TGT  240
Tyr Phe Met Ser Arg Pro Thr Lys Ile Tyr Leu Val Asp Phe Ser Cys

TAC AAG CCG GAA AAA GAG CGT ATA TGC ACG AGA GAG ATT TTC TAT GAG  288
Tyr Lys Pro Glu Lys Glu Arg Ile Cys Thr Arg Glu Ile Phe Tyr Glu

AGA TCG AAA CTA ACT GGG AAT TTT ACC GAT GAT AAT TTA ACT TTC CAA  336
Arg Ser Lys Leu Thr Gly Asn Phe Thr Asp Asp Asn Leu Thr Phe Gln
```

FIG. 15A

```
AAG AAA ATT ATC GAA AGA TCT GGA TTA GGT CAG AAC ACG TAC TTA CCT  384
Lys Lys Ile Ile Glu Arg Ser Gly Leu Gly Gln Asn Thr Tyr Leu Pro

GAG GCC GTT CTA CGG GTT CCG CCC AAT CCG TGT ATG GCG GAG GCT AGA  432
Glu Ala Val Leu Arg Val Pro Pro Asn Pro Cys Met Ala Glu Ala Arg

AAG GAG GCT GAG ATG GTT ATG TTC GGT GCG ATC GAT GAA TTG TTG GAG  480
Lys Glu Ala Glu Met Val Met Phe Gly Ala Ile Asp Glu Leu Leu Glu

AAA ACC GGG GTT AAA CCT AAG GAT ATC GGT ATT CTT GTG GTG AAT TGC  528
Lys Thr Gly Val Lys Pro Lys Asp Ile Gly Ile Leu Val Val Asn Cys

AGC TTG TTC AAT CCG ACG CCG TCT CTG TCC GCA ATG GTG GTT AAT CGG  576
Ser Leu Phe Asn Pro Thr Pro Ser Leu Ser Ala Met Val Val Asn Arg

TAC AAG CTT AGA GGG AAT ATC ATA AGT TAT AAC CTT GGC GGG ATG G    622
Tyr Lys Leu Arg Gly Asn Ile Ile Ser Tyr Asn Leu Gly Gly Met
```

FIG. 15B